Massachusetts Department of Environmental Protection
Source Water Assessment and Protection (SWAP) Report
for

Blandford Water Department

What is SWAP?

The Source Water Assessment Program (SWAP), established under the federal Safe Drinking Water Act, requires every state to:

- inventory land uses within the recharge areas of all public water supply sources;
- assess the susceptibility of drinking water sources to contamination from these land uses; and
- publicize the results to provide support for improved protection.

Susceptibility and Water Quality

Susceptibility is a measure of a water supply's potential to become contaminated due to land uses and activities within its recharge area.

A source's susceptibility to contamination does *not* imply poor water quality.

Water suppliers protect drinking water by monitoring for more than 100 chemicals, disinfecting, filtering, or treating water supplies, and using source protection measures to ensure that safe water is delivered to the tap.

Actual water quality is best reflected by the results of regular water tests. To learn more about your water quality, refer to your water supplier's annual Consumer Confidence Reports.

Table 1: Public Water System Information

PWS Name	Blandford Water Department
PWS Address	Main Street, P.O. Box 7
City/Town	Blandford
PWS ID Number	1033000
Local Contact	Mr. Frank Burkott
Phone Number	413-848-2098

Introduction

We are all concerned about the quality of the water we drink. Drinking water wells may be threatened by many potential contaminant sources, including storm runoff, road salting, and improper disposal of hazardous materials. Citizens and local officials can work together to better protect these drinking water sources.

Purpose of this report:
This report is a planning tool to support local and state efforts to improve water supply protection. By identifying land uses within water supply protection areas that may be potential sources of contamination, the assessment helps focus protection efforts on appropriate best management practices (BMPs) and drinking water source protection measures.

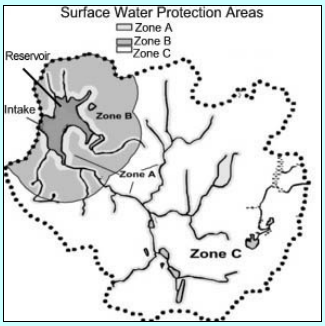
Refer to Table 3 for Recommendations to address potential sources of contamination. Department of Environmental Protection (DEP) staff are available to provide information about funding and other resources that may be available to your community.

This report includes the following sections:

1. Description of the Water System
2. Land Uses within Protection Areas
3. Source Water Protection
4. Appendices

What is a Watershed?

A watershed is the land area that catches and drains rainwater down-slope into a river, lake or reservoir. As water travels down from the watershed area it may carry contaminants from the watershed to the drinking water supply source. For protection purposes, watersheds are divided into protection Zones A, B and C.



Glossary
Protection Zones

Zone A: is the most critical for protection efforts. It is the area 400 feet from the edge of the reservoir and 200 feet from the edge of the tributaries (rivers and/or streams) draining into it.

Zone B: is the area one-half mile from the edge of the reservoir but does not go beyond the outer edge of the watershed.

Zone C: is the remaining area in the watershed not designated as Zones A or B.

The attached map shows Zone A and your watershed boundary.

Section 1: Description of the Water System

Susceptibility: Moderate

Source Name:	***Source ID:***
Long Pond Reservoir	1033000-01S

Blandford is a small, rural hilltown community in southwestern Massachusetts. The Blandford Water Department utilizes Long Pond Reservoir as the sole source of water for a portion of the Town of Blandford. Long Pond (1033000-01S) is an 81 acre impoundment holding approximately 65 million gallons of water. The watershed is part of the Cobble Mountain Reservoir watershed, the water source for the Springfield Water and Sewer Commission. The land uses within the Long Pond watershed is primarily forested upland (78%) with the remaining watershed consisting of residential and non-commercial agricultural activities, primarily hay. The Water Department owns approximately 60% of the watershed. Due to loss of their waiver from filtration in 2000, Blandford has signed an Administrative Consent Order to either develop an alternate water supply or filter the source. Please refer to the attached map to view the boundaries of the protective zones.

Prior to distribution, the pH of the water from the reservoirs is raised with soda ash for corrosion control and the water is disinfected with chlorine prior to distribution. For current information on monitoring results and treatment, please contact the Public Water System contact person listed above in Table 1 for a copy of the most recent Consumer Confidence Report.

Section 2: Land Uses in the Protection Areas

There are few activities that pose significant anthropogenic threats to the reservoir. However, due to the nature of surface water supplies and the current unfiltered status of the reservoir, the source is considered highly vulnerable to potential contamination. In fact naturally occurring bacteria present in the intestines of animals and in the soils can pose a significant threat to water quality of surface water supplies through runoff. Land uses and activities that are considered potential sources of contamination are listed in Table 2.

Key Land Uses and Protection Issues include:

1. Residential land use in Zone A and watershed
2. Forest/Watershed management
3. Transportation corridors

The overall ranking of susceptibility to contamination for the system from controllable land use activities is moderate, based on the presence of several moderate threat land use within the water supply protection areas, as seen in Table 2. It is important to reiterate that surface water supplies are considered highly vulnerable to anthropogenic and naturally occurring threats.

1. Residential Land Uses – There are three residences located within the Long Pond watershed. None of the areas have public sewers, therefore on-site septic systems are used. If managed improperly, activities associated with residential areas can contribute to drinking water contamination. Common potential sources of contamination include:

- **Septic Systems** – Improper disposal of household hazardous chemicals to septic systems is a potential source of contamination to the

groundwater because septic systems lead to the ground. If septic systems fail or are not properly maintained they can be a potential source of microbial contamination.

- **Household Hazardous Materials** - Hazardous materials may include automotive wastes, paints, solvents, pesticides, fertilizers, and other substances. Improper use, storage, and disposal of chemical products used in homes are potential sources of contamination.
- **Heating Oil Storage** - If managed improperly, Underground and Aboveground Storage Tanks (UST and AST) can be potential sources of contamination due to leaks or spills of the fuel oil they store.
- **Stormwater** – Catch basins transport stormwater from roadways and adjacent properties to the ground. As flowing stormwater travels, it picks up debris and contaminants from streets and lawns. Common potential contaminants include lawn chemicals, pet waste, and contaminants from automotive leaks, maintenance, washing, or accidents.

Residential Land Use Recommendations:

- ✓ Educate residents on best management practices (BMPs) for protecting water supplies. Distribute the fact sheet "Residents Protect Drinking Water" available in Appendix A and on www.mass.gov/dep/brp/dws/protect.htm, which provides BMPs for common residential issues.
- ✓ Consider negotiating a Right of First refusal agreement or conservation restrictions for land not currently owned by the Town.

2. Transportation Corridors - Gibbs Road transects the watershed of Long Pond on the northwest side, and there are other local roads within the watershed. Gibbs Road and the trail that runs toward the reservoir intake are of particular concern due to their proximity to the pond. Inspect the area regularly for erosion and runoff issues and correct them as appropriate. Typical roadway maintenance and use can pose a potentially significant source of contamination from accidents and washouts along dirt roads. De-icing materials, automotive chemicals and other debris on roads are picked up by stormwater washed into catch basins and discharge into the reservoirs.

Transportation Corridor Recommendations:

- ✓ Inspect drainage along roads in the watershed. Make every effort to ensure stormwater discharges outside of the protection areas as feasible or allowed to settle before entering feeder streams. Consider various strategies to detain/slow the flow and retain sediments to keep the runoff out of Long Pond.
- ✓ Work with local emergency response teams to ensure effective management of potential spills.

3. Protection Planning – Currently, Blandford and Otis do not have Watershed Protection Districts and protective bylaws.

Protection Planning Recommendations:

- ✓ Coordinate efforts with local officials to compare local watershed protection

Benefits of Source Protection

Source Protection helps protect public health and is also good for fiscal fitness:

- Protects drinking water quality at the source
- Reduces monitoring costs through the DEP Waiver Program
- Treatment can be reduced or avoided entirely, saving treatment costs
- Prevents costly contamination clean-up
- Preventing contamination saves costs on water purchases, and expensive new source development

Contact your regional DEP office for more information on Source Protection and the Waiver Program.

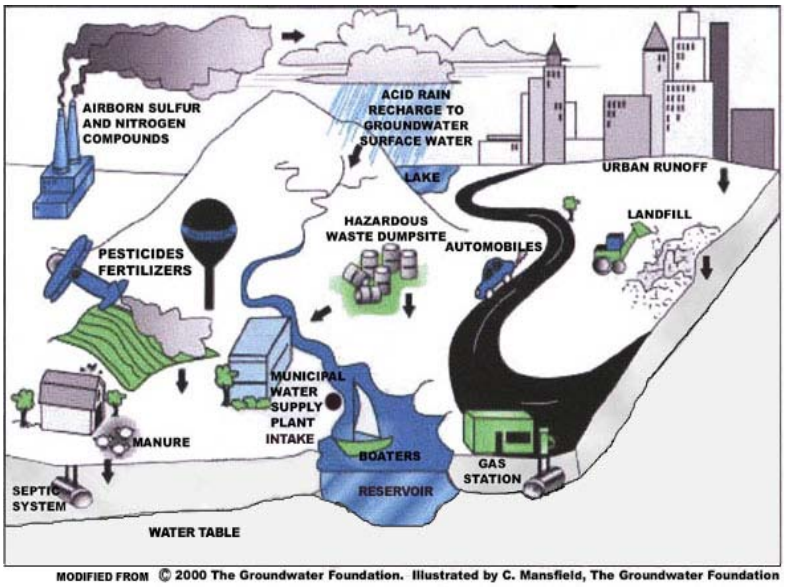


Figure 1: Sample watershed with examples of potential sources of contamination

controls with current MA Watershed Protection Regulations 310 CMR 22.21(2). Include Otis in the protection plans. For more information on DEP land use controls see http://mass.gov /dep/brp/dws/protect.htm.

Section 3: Source Water Protection Conclusions and Recommendations

Current Land Uses and Source Protection:
As with many water supply protection areas, the system's Zone C contains potential sources of contamination. However, source protection measures reduce the risk of actual contamination, as illustrated in Figure 2. The water supplier is commended for taking an active role in promoting source protection measures in the Water Supply Protection Areas through:

- Ownership of most of the watershed
- Performing clean-up of old farm dump near Long Pond.

Source Protection Recommendations:
To better protect the sources for the future:

- ✓ Inspect the protection areas regularly, and when feasible, remove any non-water supply activities.
- ✓ Educate residents on ways they can help you to protect drinking water sources.
- ✓ Work with emergency response teams to ensure that they are aware of the stormwater drainage in your waterhsed and to cooperate on responding to spills or accidents.
- ✓ Work with landowners in your protection areas to make them aware of your water supply and to encourage the use of a best management practices for residential and recreational uses.
- ✓ Inspect stormwater drainage along roads in the watershed. Make every effort to ensure stormwater discharges outside of the protection areas. Alternatively consider various strategies to detain/slow the flow and retain sediments to keep the runoff out of Long Pond.
- ✓ Inspect, maintain, and clean catch basins on a regular schedule.

Conclusions:
These recommendations are only part of your ongoing local drinking water source protection. Additional source protection recommendations are listed in Table 3, the Key Issues above and Appendix A.

DEP staff, informational documents, and resources are available to help you build on this SWAP report as you continue to improve drinking water protection in your community. The Department's Source Protection Grant Program provides funds to assist public water suppliers in addressing water supply source protection through local projects. Protection recommendations discussed in this document may be eligible for funding under the Grant Program. Please note: each spring, about May 1, the Department posts a new Request for Response (RFR- the grant application form) for the grant program.

What are "BMPs?"

Best Management Practices (BMPs) are measures that are used to protect and improve surface water and groundwater quality. BMPs can be structural, such as oil & grease trap catch basins, nonstructural, such as hazardous waste collection days or managerial, such as employee training on proper disposal procedures.

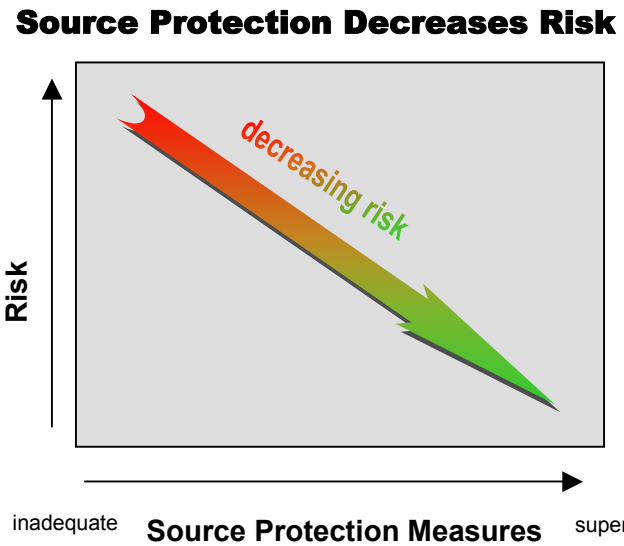


Figure 2: Risk of contamination decreases as source protection increases. This is true for public water systems of any susceptibility ranking, whether High, Moderate, or Low.

Potential Source of Contamination vs. Actual Contamination

The activities listed in Table 2 are those that typically use, produce, or store contaminants of concern, which, if managed improperly, are potential sources of contamination (PSC).

It is important to understand that a release may never occur from the potential source of contamination provided facilities are using best management practices (BMPs). If BMPs are in place, the actual risk may be lower than the threat ranking identified in Table 2. Many potential sources of contamination are regulated at the federal, state and/or local levels, to further reduce the risk.

Table 2: Land Use in the Watershed

For more information, refer to Appendix B: Regulated Facilities within the Water Supply Protection Area

Activities	Quantity	Threat*	Potential Source of Contamination
Agricultural			
Haying -- No fertilizers or pesticides	2	M	Accidental fuel spill.
Residential			
Fuel Oil Storage (at residences)	Numerous	M	Fuel oil: spills, leaks, or improper handling
Lawn Care / Gardening	Numerous	M	Pesticides: over-application or improper storage and disposal
Septic Systems / Cesspools	Numerous	M	Hazardous chemicals: microbial contaminants, and improper disposal
Miscellaneous			
Transportation Corridors/Roads and trails (Legal/illegal access)	Numerous	M	Fuels and other hazardous materials: accidental leaks or spills; pesticides: over-application or improper handling. Illegal access to watershed.

Notes:

1. When specific potential contaminants are not known, typical potential contaminants or activities for that type of land use are listed. Facilities within the watershed may not contain all of these potential contaminant sources, may contain other potential contaminant sources, or may use Best Management Practices to prevent contaminants from reaching drinking water supplies.
2. For more information on regulated facilities, refer to Appendix B: Regulated Facilities within the Water Supply Protection Area information about these potential sources of contamination.
3. For information about Oil or Hazardous Materials Sites in your protection areas, refer to Appendix C: Tier Classified Oil and/or Hazardous Material Sites.

* **THREAT RANKING** - The rankings (high, moderate or low) represent the relative threat of each land use compared to other PSCs. The ranking of a particular PSC is based on a number of factors, including: the type and quantity of chemicals typically used or generated by the PSC; the characteristics of the contaminants (such as toxicity, environmental fate and transport); and the behavior and mobility of the pollutants in soils and groundwater.

Other grants and loans are available through the Drinking Water State Revolving Loan Fund, the Clean Water State Revolving Fund, and other sources. For more information on grants and loans, visit the Bureau of Resource Protection's Municipal Services web site at: http://mass.gov/dep/brp/mf/mfpubs.htm.

The assessment and protection recommendations in this SWAP report are provided as a tool to encourage community discussion, support ongoing source protection efforts, and help set local drinking water protection priorities. Citizens and community officials should use this SWAP report to spur discussion of local drinking water protection measures. The water supplier should supplement this SWAP report with local information on potential sources of contamination and land uses. Local information should be maintained and updated periodically to reflect land use changes in the Zone C. Use this information to set priorities, target inspections, focus education efforts, and to develop a long-term drinking water source protection plan.

Section 4: Appendices

A. Protection Recommendations
B. Additional Documents on Source Protection

For More Information

Contact Catherine V. Skiba in DEP's Springfield Office at (413) 755-2119 for more information and assistance on improving current protection measures.

Copies of this report have been provided to the public water supplier, town boards, and the local media.

Additional Documents:

To help with source protection efforts, more information is available by request or online at www.state.ma.us/dep/brp/dws including:

1. Water Supply Protection Guidance Materials such as model regulations, Best Management Practice information, and general water supply protection information.
2. MA DEP SWAP Strategy
3. Land Use Pollution Potential Matrix
4. Draft Land/Associated Contaminants Matrix

Top 5 Reasons to Develop a Local Surface Water Protection Plan

❶ Reduces Risk to Human Health

❷ Cost Effective! Reduces or Eliminates Costs Associated With:

- Increased monitoring and treatment
- Water supply clean up and remediation
- Replacing a water supply
- Purchasing water

❸ Supports municipal bylaws, making them less likely to be challenged

❹ Ensures clean drinking water supplies for future generations

❺ Enhances real estate values – clean drinking water is a local amenity. A community known for its great drinking water in a place people want to live and businesses want to locate.

Table 3: Current Protection and Recommendations

Protection Measures	Status	Recommendations
Zone A		
Does the Public Water Supplier (PWS) own or control the entire Zone A?	**NO**	Follow Best Management Practices (BMP's) that focus on good housekeeping, spill prevention, and operational practices to reduce the use and release of hazardous materials.
Is the Zone A posted with "Public Drinking Water Supply" Signs?	**YES**	Additional economical signs are available from the Northeast Rural Water Association (802) 660-4988.
Is the Zone A regularly inspected?	**YES**	Continue daily inspections of drinking water protection areas.
Are water supply-related activities the only activities within the Zone A?	**YES**	Continue monitoring non-water supply activities in Zone As.
Municipal Controls (Zoning Bylaws, Health Regulations, and General Bylaws)		
Does the municipality have Surface Water Protection Controls that meet 310 CMR 22.20C?	**NO**	The Town Watershed Protection bylaw is in compliance DEP's regulations. Refer to www.state.ma.us/dep/brp/dws/ for model bylaws, health regulations, and current regulations.
Do neighboring communities protect the water supply protection areas extending into their communities?	**NO**	Work with neighboring municipalities to include the watershed in their protection controls.
Planning		
Does the PWS have a local surface water supply protection plan?	**YES**	Update the surface water supply protection plan as necessary. Follow "Developing a Local Surface Water Supply Protection Plan" available at: www.state.ma.us/dep/ brp/dws/.
Does the PWS have a formal "Emergency Response Plan" to deal with spills or other emergencies?	**YES**	Augment plan by developing a joint emergency response plan with fire department, Board of Health, DPW, and local and state emergency officials. Coordinate emergency response drills with local teams.
Does the municipality have a watershed protection committee?	**NO**	Establish committee; include representatives from citizens' groups, neighboring communities, and the business community.
Does the Board of Health conduct inspections of commercial and industrial activities?	**Not Applicable**	For more guidance see "Hazardous Materials Management: A Community's Guide" at www.state.ma.us/dep/brp/dws/files/ hazmat.doc
Does the PWS provide watershed protection education?	**NO**	Aim additional efforts at the public and neighboring community.